7

- 7. The method of claim 5 wherein the silicon on insulator wafer includes an insulating layer disposed between the first device layer and the handle substrate.
- 8. The method of claim 1 wherein the moveable element includes a light deflecting portion.
- **9**. The method of claim **8** wherein the light deflecting portion includes a mirror.
- 10. A method for making a microelectromechanical combdrive device, comprising:

forming a moveable element from a first device layer; attaching a second device layer to the first device layer forming a first set of comb teeth from the second device layer, wherein one or more comb teeth in the first set extend from a major surface of the moveable element; attaching a third device layer to the second device layer;

forming a second set of comb teeth from the third device layer,

wherein the second set of comb teeth are aligned to the first set of comb teeth by:

before attaching the third device layer to the second 20 device layer, forming an alignment target in the second device layer, and

after attaching the third device layer to the second device layer and before forming the second set of comb teeth, forming an alignment hole in the third device layer, wherein the alignment hole is roughly aligned to the alignment target.

11. The method of claim 10 wherein one or more comb teeth in the second set are configured to interdigitate with one or more comb teeth in the first set.

12. The method of claim 10 wherein the first device layer is part of a wafer that includes a handle substrate.

13. The method of claim 12, further comprising removing the handle substrate after attaching the third device layer to the second device layer.

14. The method of claim 12 wherein the handle substrate ³⁵ and first device layer are part of a silicon-on-insulator wafer.

15. The method of claim 10 wherein the moveable element includes a light deflecting portion.

16. The method of claim 15 wherein the light deflecting portion includes a mirror.

17. A method for making a microelectromechanical combdrive device, comprising:

forming a moveable element and a flexure from a first device layer of a wafer having a first insulating layer disposed between the first device layer and a handle substrate;

forming an alignment target in the first device layer;

after forming the alignment target in the first device layer, attaching a second device layer to the first device layer such that the first device layer is disposed between the insulating layer and the second device layer;

forming a second insulating layer on a surface of the second device layer such that the second device layer is disposed between the oxide layer and the first device layer;

forming one or more comb teeth from the second device 55 layer, wherein the one or more comb teeth extend from a major surface of the moveable element;

before attaching a third device layer to the second insulating layer, forming an alignment hole through the second insulating layer and the second device layer, 60 wherein the alignment hole roughly aligns with the alignment target;

attaching the third device layer to the second insulating layer such that the second insulating layer is disposed between the second and third device layers;

8

forming one or more comb teeth from the third device layer, wherein the one or more comb teeth formed from the third device layer are configured to interdigitate with one or more of the comb teeth formed from the second device layer; and

releasing the movable element.

18. The method of claim 17, further comprising, before forming the comb teeth in the third device layer, removing the handle substrate and attaching a new handle substrate to the first insulating layer.

19. The method of claim 18 wherein the new handle substrate is attached to the first insulating layer with a photoresist.

20. The method of claim 18 wherein releasing the moveable element includes releasing the new handle substrate with a photoresist stripper.

21. The method of claim 17 wherein releasing the moveable element includes removal of selected portions of the first and second insulating layers.

22. A method for making a microelectromechanical combdrive device, comprising:

forming a moveable element and a flexure from a first device layer of a wafer having a first insulating layer disposed between the first device layer and a handle substrate;

attaching a second device layer to the first device layer such that the first device layer is disposed between the insulating layer and the second device layer;

forming a second insulating layer on a surface of the second device layer such that the second device layer is disposed between the oxide layer and the first device layer;

forming one or more comb teeth from the second device layer, wherein the one or more comb teeth extend from a major surface of the moveable element;

before attaching a third device layer to the second insulating layer, forming an alignment target in the second device layer;

attaching the third device layer to the second insulating layer such that the second insulating layer is disposed between the second and third device layers;

before forming one or more comb teeth from the third device layer, forming an alignment hole through the third insulating layer, wherein the alignment hole roughly aligns with the alignment target;

forming the one or more comb teeth from the third device layer, wherein the one or more comb teeth formed from the third device layer are configured to interdigitate with one or more of the comb teeth formed from the second device layer; and

releasing the movable element.

- 23. The method of claim 22, further comprising, before forming the comb teeth in the third device layer, removing the handle substrate and attaching a new handle substrate to the first insulating layer.
- 24. The method of claim 23 wherein the new handle substrate is attached to the first insulating layer with a photoresist.
- 25. The method of claim 23 wherein releasing the moveable element includes releasing the new handle substrate with a photoresist stripper.
- 26. The method of claim 22 wherein releasing the moveable element includes removal of selected portions of the first and second insulating layers.

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